

TFR2 (S-20): sc-23989

BACKGROUND

Iron is a vital molecule for living organisms because it is involved in a wide variety of metabolic processes, such as oxygen transport, DNA synthesis, and electron transport. Excessive iron uptake leads to tissue damage as a result of formation of free radicals. Iron uptake and storage is tightly regulated by the feedback system of iron responsive element-containing gene products and iron regulatory proteins that modulate the expression levels of the genes involved in iron metabolism. The transferrin receptor 2 (TFR2) mediates the uptake of transferrin-bound iron. It is involved in iron metabolism, hepatocyte function, and erythrocyte differentiation, and is highly expressed as a protein in liver as well as in hepatocytes and erythroid precursors. The gene encoding human TFR2 maps to chromosome 7q22.1 and is expressed as a α isoform, which encodes a transmembrane protein, and a β isoform, which encodes a shorter, intracellular protein. Mutations in the TFR2 gene result in hereditary hemochromatosis type III (HFE3), an iron overloading disorder that results in clinical complications, including cirrhosis, cardiopathy, diabetes, endocrine dysfunctions, arthropathy, and susceptibility to liver cancer.

CHROMOSOMAL LOCATION

Genetic locus: TFR2 (human) mapping to 7q22.1; Tfr2 (mouse) mapping to 5 G2.

SOURCE

TFR2 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TFR2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23989 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TFR2 (S-20) is recommended for detection of TFR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TFR2 (S-20) is also recommended for detection of TFR2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TFR2 siRNA (h): sc-42997, TFR2 siRNA (m): sc-42998, TFR2 shRNA Plasmid (h): sc-42997-SH, TFR2 shRNA Plasmid (m): sc-42998-SH, TFR2 shRNA (h) Lentiviral Particles: sc-42997-V and TFR2 shRNA (m) Lentiviral Particles: sc-42998-V.

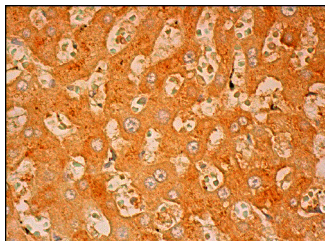
Molecular Weight of TFR2: 97-105 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or TF-1 cell lysate: sc-2412.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



TFR2 (S-20): sc-23989. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Roetto, A., et al. 2010. Comparison of 3 Tfr2-deficient murine models suggests distinct functions for Tfr2- α and Tfr2- β isoforms in different tissues. *Blood* 115: 3382-3389.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **TFR2 (9F8 1C11): sc-32271** or **TFR2 (B-6): sc-376278**, our highly recommended monoclonal alternatives to TFR2 (S-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TFR2 (9F8 1C11): sc-32271**.